ANALYSIS

52(252), December 1, 2016

ISSN 2278–5469 EISSN 2278–5450

Discovery

Floristic diversity of Naogaon Sadar, Bangladesh with special reference to medicinal plants

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Article History
Received: 23 September 2016
Accepted: 4 November 2016
Published: 1 December 2016

Citation
Jesmin Nahar, Mahbubur Rahman AHM. Floristic Diversity of Naogaon Sadar, Bangladesh with Special Reference to Medicinal Plants. *Discovery*, 2016, 52(252), 2352-2368

ABSTRACT

The present paper focused floristic diversity of Naogaon sadar, Bangladesh was recorded. A total of 239 species belonging to 198 genera under 83 families were documented. Amaranthaceae, Asteraceae, Apocynaceae, Cucurbitaceae, Euphorbiaceae, Fabaceae, Moraceae, Myrtaceae, Poaceae, Rutaceae and Solanaceae are the dominant families with high species diversity. One hundred seventeen (117) medicinal plants have been recorded with their uses for the cure of more than 59 diseases, and some of these are abscess, asthma, abortion, burning sensation, bronchitis, cancer, cough, cold, colic, chicken pox, constipation, dysentery, diarrhea, diabetes, eczema, fever, fracture of bone, headache, heart disease, indigestion, inflammation, itches, jaundice, leprosy, menstrual

disease, opthalmia, paralysis, piles, rheumatism, stomachic, scabies, skin diseases, snake-bite, sex problems, toothache, ulcers, vomiting, worm, wound and others. The investigation can be concluded that the plant can considered as a suitable source of pharmaceutical industry for new drug development.

Keywords: Angiosperm Diversity, Medicinal Plants, Drug Discovery, Naogaon, Bangladesh.

1. INTRODUCTION

Angiosperms are as important to humans as they are to other animals. Angiosperms serve as the major source of food-either directly or indirectly through consumption by herbivores-and, as mentioned above, they are a primary source of consumer goods, such as building materials, textile fibres, spices, herbs, and pharmaceuticals. Among the most important food plants on a global scale are cereals from the grass family (Poaceae); potatoes, tomatoes, eggplant, and red or chili peppers from the potato family (Solanaceae); legumes or beans (Fabaceae); pumpkins, melons, and gourds from the squash family (Cucurbitaceae); broccoli, cabbage, cauliflower, radish, and other vegetables from the mustard family (Brassicaceae, or Cruciferae); and almonds, apples, apricots, cherries, loquats, peaches, pears, raspberries, and strawberries from the rose family (Rosaceae). Members of many angiosperm families are used for food on a local level, such as ullucu (*Ullucus tuberosus*) in the Andes and cassava (*Manihot esculenta*) throughout the tropics. Tropical angiosperm trees are an important source of timber in the tropics and throughout the world.

The angiosperms provide valuable pharmaceuticals. With the exception of antibiotics, almost all medicinals either are derived directly from compounds produced by angiosperms or, if synthesized, were originally discovered in angiosperms. This includes some vitamins (e.g., vitamin C, originally extracted from fruits); aspirin, originally from the bark of willows (*Salix*; Salicaceae); narcotics (e.g., opium and its derivatives from the opium poppy, *Papaver somniferum*; Papaveraceae); and quinine from *Cinchona* (Rubiaceae) bark. Some angiosperm compounds that are highly toxic to humans have proved to be effective in the treatment of certain forms of cancer, such as acute leukemia (vincristine from the Madagascar periwincle, *Catharanthus roseus*; Apocynaceae), and of heart problems (digitalis from foxglove, *Digitalis purpurea*; Plantaginaceae). Muscle relaxants derived from curare (*Strychnos toxifera*; Loganiaceae) are used during open-heart surgery. The contribution of the angiosperms to biodiversity and habitat is so extremely important that human life is totally dependent on it. A significant loss of angiosperms would reduce the variety of food sources and oxygen supply in a habitat and drastically alter the amount and distribution of the world's precipitation. Many sources of food and medicine doubtless remain to be discovered in this group of vascular plants (Purseglove, 1968a; 1968b).

The importance of studying local floristic diversity and medicinal uses has been realized and carried out in Bangladesh by Alam (1992), Alam et al. (1996), Anisuzzaman et al. (2007), Ara et al. (2011, 2013), Tutul et al. (2010), Khan and Afza (1968), Khan and Banu (1972), Khan and Hassan (1984), Khan and Huq (2001), Rahman *et al*. (2006), Rahman et al. (2007a, 2007b, 2007c), Rahman et al. (2008a, 2008b,2008c, 2008d), Rahman et al. (2011), Rahman (2013a, 2013b, 2013c, 2013d, 2013e, 2013f, 2013g, 2013h, 2013i, 2013j, 2013k, 2013l), Rahman *et al*. (2013a, 2013b, 2013c, 2013d), Rahman and Akter (2013), Rahman and Khanom (2013), Rahman (2014), Rahman et al. (2014a, 2014b, 2014c), Rahman and Debnath (2014a, 2014b), Rahman and Gulshana (2014), Rahman and Keya (2014a, 2014b), Rahman and Rahman (2014), Rahman and Rojonigondha (2014), Rahman and Parvin (2015), Rahman et al. (2015a, 2015b, 2015c), Rahman and Uddin (1997), Rahman and Alam (2013), Roy et al (2016), Sarker and Rahman (2016), Sultana and Rahman (2016), Arefin et al. (2011), Islam et al. (2009), Khan and Huq (2001), Khan et al. (1994), Rahman et al. (2010, 2013), Rahman and Hassan (1995), Uddin and Hassan (2010, 2012), and Uddin et al. (2013, 2014). The present study was made an inventory of the floristic diversity and medicinal uses of Naogaon sadar, Bangladesh.

2. MATERIALS AND METHODS

Floristic diversity of Naogaon sadar, Bangladesh was carried out from December 2013 to June 2015. A total of 239 species belonging to 198 genera under 83 families were collected and identified. A survey on the determination of the location of different species was made and a list was prepared to be acquainted with the plants available in the selected area. All the species were noted and time to time the areas were visited to see when they flowered. For the morphological study, different types of species were examined again and again in order to see if there was any variation or not. They were collected at flowering stages and herbarium specimens were prepared as vouchers. In this practice standard method was followed. In this regard different types of plant species were collected from different habitats. All the collected plant specimens were kept in the Herbarium, Department of Botany, and University of Rajshahi, Bangladesh. The major collected materials were identified and described up to species with the help of Cronquist (1981), Hooker (1961), Prain (1963) and

Kirtikar and Basu (1987), Ahmed et al (2008-2009) were consulted. For the current name and up-to-date nomenclature Huq (1986) and Pasha and Uddin (2013) were also consulted.

3. RESULTS AND DISCUSION

In the present research paper investigated, a total of 239 species belonging to 198 genera under 83 families were recorded. Of these, Magnoliopsida (Dicotyledones) is represented by 206 species under 167 genera and 74 families while Liliopsida (Monocotyledones) is represented by 33 species under 31 genera and 9 families. Cucurbitaceae is the largest family in Magnoliopsida represented by 13 species and, in Liliopsida, Poaceae is the largest family with 10 species. Habit analysis shows that herbs, shrubs, climbers and trees are represented by 92, 46, 29 and 72 species, respectively (Table 1). Amaranthaceae, Asteraceae, Apocynaceae, Cucurbitaceae, Euphorbiaceae, Fabaceae, Moraceae, Myrtaceae, Poaceae, Rutaceae and Solanaceae are the dominant families with high species diversity (Figure 2). Of 239 species recorded here, herbs are represented by 92(38.49%), trees by 72 (30.13%), shrubs by 46 (19.25%) and climber by 29 (12.13%) species (Figure 1).

Based on this study, a checklist of angiosperm flora at Sadar Upazila of Naogaon district, Bangladesh conducted during December 2013 to July 2015. A total of 239 species belonging to 198 genera under 83 families were recorded (Table 1). The collected information is comparable with the result of other studies in Bangladesh. A total of 243 species belonging to 195 genera under 95 families were recorded in Khagrachhari district (Islam *et al.,* 2009). A total of 374 species belonging to 264 genera under 84 families were recorded in Lawachara National Park (Uddin and Hassan, 2010). A total of 153 species belonging to 120 genera under 52 families were recorded in Runctia Sal Forest (Tutul et al., 2010). A total of 245 species belonged to 183 genera and 72 families are documented in Habiganj district (Arefin *et al.,* 2011). A total of 425 species belonging to 321 genera 108 families are recorded in Rajshahi district (Rahman, 2013). A total of 302 species belonging to 243 genera 84 families are recorded in Bangladesh Police Academy, Rajshahi (Rahman *et al.,* 2014). Distribution of angiosperm species in the families shows variation. The family Cucurbitaceae is represented by 13 species. The family Solanaceae and Fabaceae is represented by 11 species and 12 species. Poaceae is represented by 10 species. Each of Moraceae and Asteraceae is represented by 8 species and 9 species. Amaranthaceae is represented by 8 species. Each of Apocynaceae, Verbenaceae represented by 7 and Euphorbiaceae is represented by 8 species. A single species in each was recorded by 37 families while two to five species in each was recorded by 34 families (Table 1). According to the data obtained in result of quantitative analysis in the study area 239 plant species were recorded, out of them 92 plant species were herbs, 46 were shrubs, 29 were climbers and 72 were tree species belonging to 83 families (Table 1; Figure 1). Though the study area has a moderately rich resource of angiosperm flora, it witnesses some threats which might cause this resource to extinct. Observations and group discussion with local people during field works resulted in identifying some major threats which include urbanization, modern agriculture, and lack of awareness, exotic plantation and river erosion. Therefore, efforts should be undertaken to safeguard the plants through ex situ and in situ approaches, public awareness should be built up, and protection of habitats of should be ensured.

Table 1 Showing the families of the plant species recorded

SL. No.	Family name	No. of the Herb species	No. of the Shrub species	No. of the Climber species	No. of the Tree species
1	Acanthaceae	1	2	-	-
2	Amaranthaceae	7	1	-	-
3	Anacardiaceae	-	-	-	5
4	Annonaceae	-	-	-	2
5	Apiaceae	2	-	-	-
6	Apocynaceae	2	3	-	2
7	Araceae	3	-	1	-
8	Araliaceae	1	-	-	-
9	Arecaceae	-	-	-	4

10	Asclepiadaceae	-	1	-	-
11	Asteraceae	8	1	-	-
12	Balsaminaceae	1	-	-	-
13	Basellaceae	-	-	1	-
14	Bignoniaceae	-	-	-	2
15	Bombaceace	-	-	-	1
16	Boraginaceae	1	-	-	-
17	Brassicaceae	4	-	-	-
18	Caesalpiniaceae	-	-	-	2
19	Capparaceae	1	-	-	-
20	Caricaceae	-	-	-	1
21	Caryophylacea	1	-	-	-
22	Chenopodiaceae	2	-	-	-
23	Combretaceae	-	-	-	2
24	Commelinaceae	4	-	-	-
25	Convolvulaceae	-	1	3	-
26	Crassulaceae	1	-	-	-
27	Cucurbitaceae	-	-	13	-
28	Cuscutaceae	-	-	1	-
29	Cypenacee	3	-	-	-
30	Dilleniaceae	-	-	-	1
31	Droseraceceae	1	-	-	-
32	Ebenaceae	-	-	-	1
33	Elaeocarpaceae	-	-	-	1
34	Euphorbiaceae	2	4	-	2
35	Fabaceae	4	3	2	3
36	Guettiferae	-	-	-	1
37	Hydrophylaceae	1	-	-	-
38	Lamiaceae	5	-	-	-
39	Lauraceae	-	1	-	2
40	Lecythidaceae	-	-	-	1
41	Liliaceae	2	-	1	-
42	Lythraceae	1	1	-	1
43	Magnoliaceae	-	-	-	1
44	Malvaceae	2	1	-	-
45	Meliaceae	-	-	-	4
46	Menispermaceae	-	-	1	-
47	Menyanthacae	1	-	-	-

48	Mimosaceae	1	-	-	1
49	Molluginaceae	1	-	-	-
50	Moraceae	-	1	-	7
51	Moringaceae	-	-	-	1
52	Musaceae	-	1	-	-
53	Myrtaceae	-	-	-	6
54	Nyctaginaceae	1	-	2	-
55	Nymphaeaceae	1	-	-	-
56	Oleaceae	-	2	-	-
57	Oxalidaceae	1	-	-	1
58	Papaveraceae	1	-	-	-
59	Passifloraceae	-	-	1	-
60	Pedaliaceae	1	-	-	-
61	Piperaceae	1	-	1	-
62	Plantaginaceae	1	-	-	-
63	Poaceae	4	5	-	1
64	Polygonaceae	3	-	-	-
65	Pontederiaceae	1	-	-	-
66	Portulacaceae	1	-	-	-
67	Punicaceae	-	-	-	1
68	Rhamnaceae	-	-	-	1
69	Rosaceae	-	2	-	-
70	Rubiaceae	-	4	-	1
71	Rutaceae	-	1	-	4
72	Sapindaceae	-	-	-	1
73	Sapotaceae	-	-	-	3
74	Serophularlaceae	3	-	-	-
75	Solanaceae	5	6	-	-
76	Sterculiaceae	-	-	-	2
77	Tiliaceae	-	1	-	-
78	Trapaceae	1	-	-	-
79	Ulmacaceae	-	-	-	1
80	Urticaceae	1	-	-	-
81	Verbenaceae	1	4	-	2
82	Vitaceae	-	-	2	-
83	Zingiberaceae	2	-	-	-
	Total	92	46	29	72

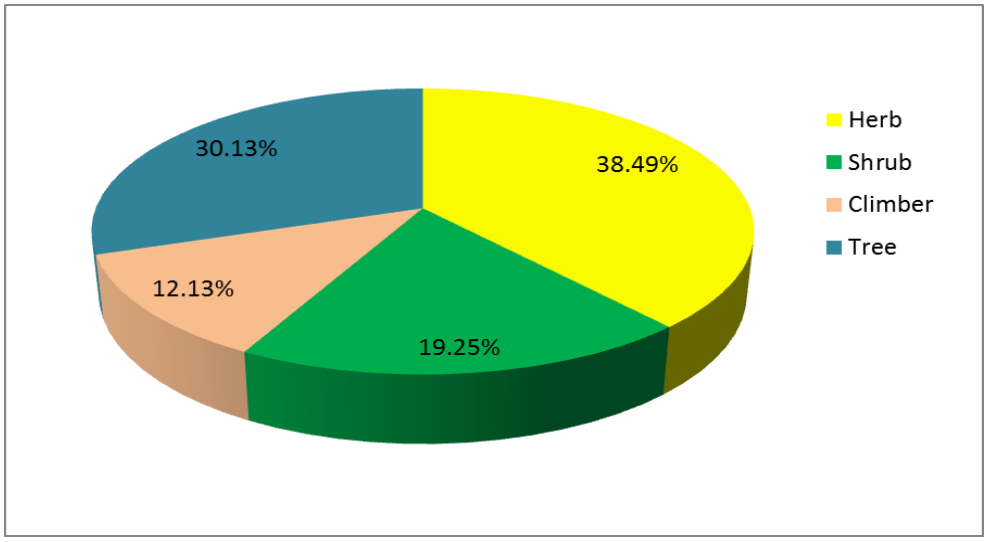

Figure 1 Habit diversity of the recorded species in the study area

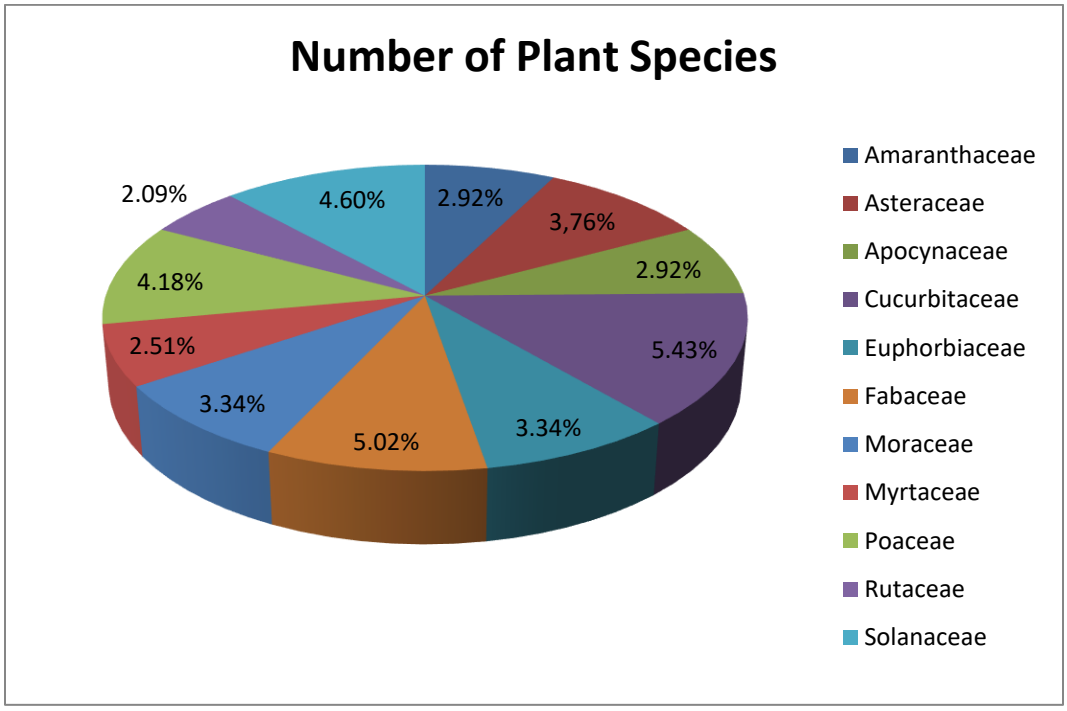

Figure 2 Dominant plant families in the study area

PHOTOGRAPHS

Figure 3 Important angiosperm plant species in the study area

A. *Vitis vinifera* B. *Litchi chinensis* C. *Lannea coromandelica* D. *Mangifera indica* E. *Spondias purpurea* F. *Spondias pinnata* G. *Anacandium occidentale* H. *Aphanamixis polystachya* I. *Azadirachta indica* J. *Swietenia mahagoni* K. *Toona ciliata* L. *Aegle marmelos* M. *Citrus aurantifolia* N. *Citrus grandis* O. *Limonia acidissima* P. *Murraya paniculata* Q. *Averrhoa carambola* R. *Oxalis corniculata* S. *Impatiens balsamina* T. *Ardisia paniculata*

4. MEDICINALLY IMPORTANT PLANTS

The important medicinal plants of Noaogaon sadar, Bangladesh were carried out. A total of 117 plant species belonging to 103 genera and 54 families were collected and identified. Most of the local people in the study area are poor are illiterate. In one hand, these people are out of the reach of modern medicines and on other hand, the market price of most available medicines are very expensive. As a result, these medicinal plants are used by them to cure following the diseases, especially for abscess, asthma, abortion, burning sensation, bronchitis, cancer, cough, cold, colic, chicken pox, constipation, dysentery, diarrhea, diabetes, eczema, fever, fracture of bone, headache, heart disease, indigestion, inflammation, itches, jaundice, leprosy, menstrual disease, opthalmia, paralysis, piles, rheumatism, stomachic, scabies, skin diseases, snake-bite, sex problems, toothache, ulcers, vomiting, worm, wound and others (Table 2). This finding of common medicinal plant families in the study is in agreement with Anisuzzaman et al (2007);

Ghani (2003); Khan and Huq (1975), Khan (1998), Kona and Rahman (2016), Jamila and Rahman (2016a, 2016b, 2016c), Jamila et al (2016), Islam and Rahman (2016) and Yusuf et al (1994, 2006, 2009).

Table 2 Medicinal plants and their use in different ailments by the local people of Naogaon sadar, Bangladesh

S/N	Scientific Name	Family	Parts used	Diseases to be treated
1	*Abelmoschus esculentus*	Malvaceae	Fruit	Chronic dysentery, gonorrhea, urinary discharges and diarrhea.
2	*Abroma augusta*	Sterculiaceae	Root bark, Leaves stalk	Irregular menses and pain, dysentery, weakness.
3	*Adhatoda vasica*	Acanthaceae	Bark, Flowers, Leaves	Cough, asthma, ophthalmia and diarrhea.
4	*Aegle marmelos*	Rutaceae	Fruit	Diarrhea, dysentery and ripe fruit for constipation.
5	*Albizia procera*	Mimosaceae	Bark, Leaves	Ulcer, threadworms, scabies, toothache.
6	*Allium cepa*	Liliaceae	Bulb	Cough, asthma, rheumatism, colic and insect bites.
7	*Allium sativum*	Liliaceae	Bulb	Fevers, coughs, bronchitis, rheumatism, inflammation, leucoderma, piles, indigestion, heart diseases and wounds, gas formation, painful menstruation and pain in abdomen and ears.
8	*Alocasia indica*	Araceae	Root	Inflammations, leprosy and piles.
9	*Alstonia scholaris*	Apocynaceae	Sap, gum and roots	Cancer
10	*Alternathera sessilis*	Amaranthaceae	Whole Plant	Blood vomiting.
11	*Amaranthus dubius*	Amaranthaceae	Root bark, Leaves	Blood diseases, burning sensation, leprosy, leucorrhoea.
12	*Amaranthus spinosus*	Amaranthaceae	Whole Plant	Appetite, burning sensation, hallucination, leprosy, piles, bronchitis, leucorrhoea and constipation.
13	*Amaranthus tricolor*	Amaranthaceae	Leaves	Blood vomiting.
14	*Amaranthus viridis*	Amaranthaceae	Whole Plant	Burning sensation, hallucination, leprosy, bronchitis, piles, leucorrhoea and constipation.
15	*Andrographis*	Acanthaceae	Leaves, Bark,	Piles, cough, asthma.

	paniculata		Root	
16	*Annona squamosa*	Annonaceae	Root, Bark	Diarrhea.
17	*Anthocephalus chinensis*	Rubiaceae	Leaves	Stomachic.
18	*Areca catechu*	Arecaceae	Fruit	Cardio tonic, improves appetite.
19	*Argemone mexicana*	Papaveraceae	Latex	Skin cracks, dropsy, jaundice warts, tumors and cancer.
20	*Artocarpus heterophyllus*	Moraceae	Leaves	Skin diseases.
21	*Averrhoa carambola*	Oxalidaceae	Fruit	Influenza fever.
22	*Bambusa balcooa*	Poaceae	Root, Bark	Joint pains and general debility.
23	*Basella alba*	Basellaceae	Root, Leaves	Toothache, constipation.
24	*Bauhinia acuminata*	Caesalpiniaceae	Leaves, Root	Bladder stone, leprosy and asthma.
25	*Benincasa hispida*	Cucurbitaceae	Fruits	Haemoptysis and other haemorrhages from internal organs, particularly beneficial in phthisis.
26	*Bombax ceiba*	Bombacaceae	Bark and Thorns.	Wounds, ulcers, skin diseases, hemorrhoids, inflammations, cough and bronchitis.
27	*Borassus flabellifer*	Arecaceae	Juice	Dysentery.
28	*Brassica napus*	Brassicaceae	Leaves, seeds	Stomachic.
29	*Bryophyllum pinnatum*	Crassulaceae	Leaves	Blood dysentery.
30	*Cajanus cajan*	Fabaceae	Leaves	Jaundice and pneumonia.
31	*Calotropis procera*	Asclepiadaceae	Root bark	Dyspepsia, constipation, loss of appetite, indigestion and mucus in stool.
32	*Capsicum frutescens*	Solanaceae	Leaves	Headache, night blindness, pain, sores, dysuria and bronchitis.
33	*Carica papaya*	Caricaceae	Fruit, Latex	Dyspepsia, ringworm, wounds, ulcers.
34	*Carissa carandas*	Apocynaceae	Fruit	Diabetes.
35	*Catharanthus roseus*	Apocynaceae	Whole Plant, Leaves	Diabetes.

36	*Celosia cristata*	Amaranthaceae	Whole Plant, Flower	Dysentery and diarrhea and excessive menstrual discharges.
37	*Centella asiatica*	Apiaceae	Whole Plant	Improves appetite, voice and memory; dysentery, leucoderma, urinary discharges, bronchitis, inflammations, fevers.
38	*Citrus aurantifolia*	Rutaceae	Fruit	Skin irritation and nausea; juice is appetizer, stomachic, anthelmintic; used in biliousness, sore throat and eye complaints, relieves vomiting.
39	*Citrus grandis*	Rutaceae	Fruit	Influenza, cough, catarrh and asthma.
40	*Clerodendrum viscosum*	Verbenaceae	Leaves, Root	Asthma, tumors and certain skin diseases.
41	*Coccinia cordifolia*	Cucurbitaceae	Whole Plant	Diabetes, asthma, fever, dropsy, catarrh, epilepsy and gonorrhea.
42	*Cocos nucifera*	Arecaceae	Fruit, Root	Diabetes, dysentery.
43	*Colocasia esculenta*	Araceae	Whole Plant	Tumors, ulcerated polyp, cancer of nose and warts.
44	*Commelina benghalensis*	Commelinaceae	Leaves	Chronic rheumatism.
45	*Corchorus capsularis*	Malvaceae	Leaves	Dysentery.
46	*Coriandrum sativum*	Apiaceae	Fruit	Improves appetite.
47	*Croton bonplandianum*	Euphorbiaceae	Leaves, Seed	Cough, eczema and ringworm.
48	*Cucumis melo*	Cucurbitaceae	Pulp of the fruit	Eczema and biliousness.
49	*Cucumis sativus*	Cucurbitaceae	Fruits	Relieve inflammation.
50	*Cucurbita maxima*	Cucurbitaceae	Pulp of the fruit	Burns, inflammations and boils.
51	*Curcuma longa*	Zingiberaceae	Rhizome	Scabies, itches, boils, abscess, eczema, leucoderma, eye diseases, pains, internally for cough, cold, fever.
52	*Cuscuta reflexa*	Cuscutaceae	Stem	Prevent hair fall.
53	*Cynodon dactylon*	Poaceae	Whole Plant	Cuts and wounds.
54	*Dalbergia sissoo*	Fabaceae	Bark, Leaves	Haemorrhages, bleeding piles, gonorrhea.
55	*Datura metel*	Solanaceae	Seed,	Insanity, fever with catarrh, diarrhea, skin

			Leaves	diseases.
56	*Erythrina variegata*	Fabaceae	Leaves	Pain of the joints and inflammations; earache, toothache.
57	*Euphorbia hirta*	Euphorbiaceae	Whole Plant	Abscesses, inflamed glands, ulcers.
58	*Ficus benghalensis*	Moraceae	Whole plant	Toothache, dysentery, diarrhea, piles and diabetes.
59	*Ficus hispida*	Moraceae	Whole plant, Fruit	Ulcers, biliousness, psoriasis, anemia, piles, jaundice, hemorrhages of the nose and mouth, diabetes.
60	*Ficus racemosa*	Moraceae	Fruit	Menorrhagia, haemoptysis, bronchitis, dry cough, diseases of kidney and spleen.
61	*Ficus religiosa*	Moraceae	Fruit	Asthma.
62	*Glinus oppositifolius*	Molluginaceae	Whole plant	Earache, skin diseases.
63	*Helianthus annuus*	Asteraceae	Leaves	Lumber pain, malaria.
64	*Heliotropium indicum*	Boraginaceae	Whole Plant	Ulcers, sores, wounds, gum boils, skin affections, stings of insects and rheumatism.
65	*Hibiscus rosa-sinensis*	Malvaceae	Flower bud	Burning of the body, urinary discharges, seminal weakness and piles.
66	*Impatiens balsamina*	Balsaminaceae	Seeds, Flower	Pains, burns and scalds.
67	*Ipomoea aquatica*	Convolvulaceae	Whole Plant	Leucoderma, leprosy, fever, jaundice, biliousness, bronchitis and liver complaints.
68	*Ipomoea batatus*	Convolvulaceae	Whole Plant, Root	Low fever and skin disease and diarrhea.
69	*Ipomoea fistulosa*	Convolvulaceae	Leaves	Filariasis, constipation, boils and wounds.
70	*Ixora coccinia*	Rubiaceae	Root, Flower	Hiccup, fever, gonorrhea, diarrhea, dysentery, leucorrhoea and catarrhal bronchitis.
71	*Justicia gendarusa*	Acanthaceae	Leaf	Insecticidal, chest pain.
72	*Lablab purpureus*	Fabaceae	Seed	Inflammations.
73	*Lannea coromandelica*	Anacardiaceae	Bark	Impetigenous eruptions, leprous and obstinate ulcers.
74	*Lawsonia inermis*	Lythraceae	Leaves	Headache, skin diseases, eczema, leprosy, dandruff.
75	*Leonurus sibiricus*	Lamiaceae	Leaves	Chronic rheumatism, psoriasis.
76	*Leucas aspera*	Lamiaceae	Leaves	Chronic rheumatism, psoriasis and other chronic skin eruption,
77	*Litchi chinensis*	Sapindaceae	Fruit, Seed	Tonic to the heart, brain and liver, various

				neuralgic disorders and in orchitis.
78	*Luffa acutangula*	Cucurbitaceae	Leaves	Splenitis, ringworms and leprosy.
79	*Lycopersicon esculentum*	Solanaceae	Fruit	Canker of the mouth.
80	*Mangifera indica*	Anacardiaceae	Unripe fruit	Dysentery and urinary discharges; ophthalmia and eruption.
81	*Manilkara zapota*	Sapotaceae	Leaves	Asthma and cough.
82	*Mimosa pudica*	Mimosaceae	Whole plant	Snake bites.
83	*Mimusops elengi*	Sapotaceae	Stem bark	Antidote to bleeding gums and swelling of the mouth and tongue.
84	*Momordica charantia*	Cucurbitaceae	Whole plant, Fruit	Diabetes mellitus, piles, leprosy, jaundice.
85	*Moringa oleifera*	Moringaceae	Leaves, Fruit	Excessive pains cure hallucinations, dry tumors, hiccough, and asthma.
86	*Musa sapientum*	Musaceae	Stem	Stop bleeding, source of iron
87	*Nerium indicum*	Apocynaceae	Root and root bark	Cancers and ulcers on the penis, chronic pain in the abdomen and pain in the joints.
88	*Nyctanthes arbor-tristis*	Oleaceae	Leaves	Fever and rheumatism.
89	*Nymphaea nouchali*	Nymphaeaceae	Rhizome	Piles, dysentery and dyspepsia.
90	*Ocimum sanctum*	Lamiaceae	Leaves	Coughs, colds, catarrh and bronchitis; gastric disorder, earache, ringworm, leprosy and itches.
91	*Oxalis corniculata*	Oxalidaceae	Whole plant	Piles, anemia and tympanites.
92	*Peperomia pellucida*	Piperaceae	Whole plant	Eczema, abdominal pains, headache and fever.
93	*Phoenix sylvestris*	Arecaceae	Fruit, Root	Gonorrhea and gleets.
94	*Phyllanthus emblica*	Euphorbiaceae	Fruit	Insomnia, skin problems, gall pain, leucorrhoea and tympanites.
95	*Polyalthia longifolia*	Annonaceae	Bark, Leaves	Fever, against wide range of pathogens.
96	*Persicaria hydropiper*	Polygonaceae	Flower	Gout.
97	*Psidium guajava*	Myrtaceae	Root bark, Root	Diarrhea, dysentery.
98	*Punica granatum*	Punicaceae	Stem	Abdominal pain.
99	*Sesamum indicum*	Pedaliaceae	Seed	Piles.

100	*Solanum melongena*	Solanaceae	Fruit	Appetite and lessens inflammation.
101	*Solanum nigrum*	Solanaceae	Fruit	Fevers.
102	*Spondius pinnata*	Anacardiaceae	Bark	Dysentery, diarrhea and vomiting.
103	*Swietenia mahagoni*	Meliaceae	Seed	Diabetes.
104	*Syzygium cumini*	Myrtaceae	Bark	Sore throat, bronchitis, asthma and dysentery.
105	*Syzygium samarangense*	Myrtaceae	Bark, Leaves	Asthma, fatigue, dysentery and sore-eyes.
106	*Tagetes patula*.	Asteraceae	Whole Plant, Leaves	Rheumatism, cold and bronchitis, Kidney troubles, muscular pains.
107	*Tamarindus indica*	Caesalpiniaceae	Pulp of the ripe fruit	Fever, dyspepsia, gastritis, dysentery and diarrhea; diseases supposed to cause by deranged bile, such as burning of the body and costiveness.
108	*Terminalia arjuna*	Combretaceae	Stem	Heart disease.
109	*Trapa bispinosa*	Trapaceae	Fruit	Diarrhea and bilious affections; nervous and general debility, seminal weakness and leucorrhoea.
110	*Trichosanthes arguina*	Cucurbitaceae	Leaves, Stem	Bilious disorders and skin diseases, fever.
111	*Trichosanthes dioica*	Cucurbitaceae	Leaves	Dysentery, diarrhea, bronchitis and to arrest bleeding from bruises, and for the restoration of hairs.
112	*Tridax procumbens*	Asteraceae	Leaves	Bronchial catarrh, dysentery, diarrhea.
113	*Vigna sinensis*	Fabaceae	Seed	Jaundice, strengthen the stomach and to destroy worms.
114	*Vitex negundo*	Verbenaceae	Leaves	Headache
115	*Xanthium indicum*	Asteraceae	Whole Plant	Urinary and renal complaints in gleets, leucorrhoea and menorrhagia.
116	*Zea mays*	Poaceae	Seed	Piles; lessens pain.
117	*Zingiber officinale*	Zingiberaceae	Rhizome	Constipation, dysentery, vomiting, headache, earache, sprain joints, in sore throats and voice loss.

ACKNOWLEDGEMENTS

The authors are grateful to the local people of Naogaon sadar, Bangladesh for their co-operation and help during the research work.

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